Adnominal word-external suppletion is not concord: evidence from Ingush

Abstract The paper provides evidence that number-conditioned word-external allomorphy as exhibited by nominal modifiers conditioned by the morphological number of the head noun is a phenomenon separate from Concord – a morphosyntactic operation standardly proposed to model NP-internal feature crossreferencing. Evidence is provided from patterns of feature crossreferencing on nominal modifiers in Ingush, a Nakh-Dagestanian language. Certain nominal modifiers are shown to exhibit both concord and number-sensitive allomorphy, with the latter but not the former being sensitive to locality. NP-internal word-external allomorphy thus behaves very similarily to word-external allomorphy found in the verbal domain. The data thus provides further evidence to the claim that allomorphy needs not be mediated by morphosyntactic feature copying operations, such as Agreement or Concord.

I. Introduction: Suppletion and Agreement

One interesting problem of inflectional identity in the verbal and adjectival domains is the issue of number-conditioned suppletion (Durie 1986, Corbett 2000, Veselinova 2006, Toosarvardani 2016). An example of this is provided below in (1-2). In these examples, the unrelated stems of the verb are chosen depending on the number of the participant.

(1) Yaqui (Hiaki) (Bobaljik&Harley 2017)

a. Aapo **weye**
3SG walk.SG
'S/he is walking.'

b. Vempo **kate**
3PL walk.PL
'They are walking.'

(2) **Hiuchol (Bobaljik&Harley 2017)**

a. Wan Maria maa-tI me-neci-**mieni**.
Juan Maria and-SUBJ 3.PL.SUBJ-1.SG.OBJ-kill.SG
'Juan and Maria are killing me.'

b. Nee Wan Maria maa-me ne-wa-**qiini**.
1.SG Juan Maria and-N.SUBJ 1.SG.SUBJ-3.PL.OBJ-kill.PL
'I am killing Juan and Maria.'

The morphosyntactic research has concurred on the view that the irregular forms involved are forms of the same vocabulary item, or root (hence Same Root Analysis (Adamson 2024)), and are in allomorphic relations with each other. One of widely accepted accounts of the data like this analyzes the cases of suppletion as instances of Context-Dependent Allomorphy (Bobaljik 2012, 2015; Harley 2014, 2015; Arregi and Nevins 2014, a.o.) where the context is determined by the cross-referenced verbal arguments. This view relies on the assumption that the allomorphy can not only be conditioned by internal inflectional features of a phrase (such as number-conditioned allomorphy in English *person-people*), but also by active morphosyntactic features of other syntactic nodes in its domain (Bobaljik&Harley 2017).

The view that suppletive pairs such as the pair *weye/kate* above are indeed in allomorphic relations was challenged in several works (Thornton 2019). Alternatively, it has been proposed that such alternation can be modeled as allomorphy mediated by an Agree relation. Under this view, the features of the crossreferenced argument get copied onto the verb and the allomorph selection is sensitive to the result of the Agree relation. This is represented in the diagram in (3), where the allomorphical selection of a root, sensitive to the number feature NUM, is conditioned the number feature inside the extended projection of the considered verb; the number feature, in its turn, originates on the argument. The diagram in (4) illustrates an alternative mechanics, whereby no mediating AGREE relation is present and the allomorphic selection is conditioned directly by the participant's morphosyntactic (number) feature[1]. In more technical terms, this is to read as follows: the context of allomorphy is the participant in the latter case, and a certain V(P)-internal feature in the former case. Under the unmediated mechanics of allomorphy, a stricter view on allomorphy can be maintained, since the context of the allomorphy is contained on the verbal complex, very close to the site of the allomorphic selection.

(3) Verbal suppletion as allomorphy mediated by agreement

$\sqrt{}_{\text{ROOT}} \leftrightarrow$ b / _ [CONTEXT: VP_{NUM}] PROBE: NP_{NUM}

$\sqrt{}_{\text{ROOT}} \leftrightarrow$ a

(4) Unmediated (plain) allomorphy

$\sqrt{}_{\text{ROOT}} \leftrightarrow$ b (V) / _ [CONTEXT: NP]

$\sqrt{}_{\text{ROOT}} \leftrightarrow$ a (V)

However, several works provide empirical evidence that certain instances of number suppletion do not involve agreement after all. For instance, in certain languages, a given verb may crossreference phi-features

[1] The DM's distinction between roots and categorial N's in this diagram is not important and is not indicated.

of one argument and show allomorphic sensitivity to the features of another. Such position is found for instance in Kolyma Yukaghir, among other languages, where the allomorphy tracks the person (1/2) of the recipient, while the agreement tracks the person of the direct object (3 person).

(5) **Kolyma Yukaghir**

met-in	er-če	n'ēr-ek	**kej-ŋile.**
I-DAT	[bad-ATTR]	clothing-PRED	give.1/2-OF:3SG

'They gave me bad clothing.' Maslova (2002:353)

In addition to that, suppletion may be found in languages without agreement (including Hiaki). Weisser (2019) attempts at providing of a list of features in which suppletion and agreement are demonstratively different. The available data on the phenomenon also shows that the locality of Agreement and feature-conditioned allomorphy might be different: while there are known cases of long-distance agreement there has been not described any cases of allomorphy sensitive to features of a DP in a different clause. To conclude, there is growing but still perhaps inconclusive evidence pointing to the conclusion that verbal number suppletion cannot be reduced to predicative agreement.

Another place in the grammar where similar patterns are found is the domain of *adjectival modification* with adjectives often showing suppletion depending on the number of the head noun.[2] Adamson (2024) considers Swedish facts like the ones in (6), where adjectives exhibit number-sensitive suppletion and argues that such pairs are indeed allomorphs rather than two separate roots.

(6) **Number-conditioned allomorphy**

a.	en	liten	snigel
	a	little	snail
	'a little snail'		
b.	små	sniglar	
	little	snails	
	'little snails'		(Adamson 2024:4)

Similar to cases with verbal suppletion, an important issue that remains is whether such facts can be analyzed as instances of Agreement/Concord mediated allomorphy. Such a hypothetical analysis may involve an allomorphic choice premediated by a feature copying operation. Here, the allomorphy can be sensitive to NP-internal features, which originate at the noun head and get transmitted onto the modifier via

[2] One interesting – and relevant – point in which adjectival and verbal suppletion are similar – on the typological dimension – is the fact that, crosslinguistically, both verbal and adjectival suppletion are confined to particular semantic zones – for adjectives, most prominently size.

concord (7), Alternatively, allomorphy can be modeled to be directly sensitive to nominal head's number features (8).

(7) Adjectival suppletion as allomorphy mediated by concord

$\sqrt{}_{ROOT} \leftrightarrow$ b / _ [CONTEXT: $MODIFIER_{NUM}$] PROBE: N_{NUM}

$\sqrt{}_{ROOT} \leftrightarrow$ a

(8) Unmediated (plain) allomorphy

$\sqrt{}_{ROOT} \leftrightarrow$ b (Adj) / _ [N_{NUM}]
$\sqrt{}_{ROOT} \leftrightarrow$ a (Adj)

Similar to the previous case, such a feature copying operation will result in phi-features getting copied onto the adnominal modifier. The allomorphy proceeds locally with the context of the allomorphy being word-internal. Whether or not this analysis is correct for Swedish, the question may be asked more generally: can instances of adnominal suppletion be analyzed as concord-mediated allomorphy?

In this paper, I will provide evidence that at least in some languages with adjectival suppletion a concord-mediated analysis is not warranted and a plain Allomorphy analysis should be preferred instead. More specifically, for Ingush, I will present novel data showing that the concord and adjectival suppletion pattern differently. The discrepancy between the two operations can be briefly illustrated below.

(9) **Adjectival plural marking in Ingush**

a. b-**oaqqa**	cisk
SG-big	cat
'a big cat'	
b. d-**oaqqa**/d-**oaqqii**	cisk-až
PL-big/PL-big.PL	cat-PL
'big cats'	

In this example, the number on the adjectival prefix always tracks the morphological number of the noun head, while the plural allomorph can in most cases be used interchangeably with the singular (or number-unmarked) adjectival allomorph. In (5) the plurality on the adjective *doaqqii* is marked twice – as the plural prefix (*d-*), which cumulatively expones noun class and number – and as choosing the plural rather than unmarked allomorph of the root. I will argue that while the number exponence on the prefix is an instance of concord, the choice between *-oaqqa/-oaqqii* forms is an instance of contextual allomorphy. Furthermore,

I will show that, in addition to this simple pattern, in certain contexts the choice of the plural allomorph (-*oaqqii*) is in fact obligatory and that the distribution of such contexts can be best described in terms of locality. The Ingush data provides evidence that concord and number-conditioned allomorphy can co-occur on the same modifier. Although multiple exponence of plurality on the same modifier has been described in the literature (see for instance Deal (2016) for Nez Perce), the described multiple plural markers have been demonstrated to have the same distribution. In contrast, the two types of adjectival plural exponence in Ingush have demonstrably different distribution.

The rest of the paper is organized as follows. In section 2, I provide the relevant data from Ingush. In section 3, I provide the detailed analysis of the phenomenon in question. In section 4, certain implications of the proposed analysis are discussed. Section 5 concludes.

2. Data

2.1 Morphosyntax of plural marking in Ingush

Ingush is a Nakh-Dagestanian language of the Nakh group spoken predominantly in Ingushetia, Russia. The language has many morphosyntactic properties typical for Nakh-Dagestanian languages, including Ergative alignment, SOV basic verb order and relatively rich verbal and nominal morphology (see Nichols 2011) for more background on Ingush).

Of particular importance for the current discussion is the system of noun class and number marking which is marked cumulatively as prefix on verbs and certain nominal modifiers, see below. The language distinguishes two numbers (singular and plural) and six noun classes; altogether four distinct class/number prefixes are used, see table in (12). Every Ingush noun belongs to one of these six classes. As discussed in detail in Nichols (2011), the presence of the class/number prefix on both nominal modifiers or verbs is purely morphological – it has no bearing whatsoever on the syntactic behavior of the prefix-bearing unit.

That is to say, certain verbs have a morphological slot for a prefix while others do not. The same is true for adnominal modifiers.[3] For instance, the verb *mala* 'drink' exhibits no phi-inflection while the verb *-eša* 'read` contains a slot for a prefix which tracks the gender (noun class) and number of the crossreferenced argument. For predicative agreement, the controller is always the Absolutive argument. The VPs headed by the verbs of the two groups can be freely coordinated with each other.

The same is true for adnominal modifiers. While certain adnominal modifiers have a slot for a noun class prefix, others do not. For instance, the numeral *-i'* '4' contains a class prefix, while the numerals 'two', 'three' or 'five' do not, see the example (10) below.

[3] All class prefixes are monoconsonantal (see the table below) and attach to vowel-initial roots – that is, all predicates taking prefixes begin with a vowel. The reverse, however, is not true: while many (perhaps, the majority) of prefixless predicates are consonant-initial, some of them are vowel-initial.

(10) **b**-i' / qo / pxi cisk
SG-four / three / five cat
'four/three/five cats'

The presence/absence of a class prefix – on the synchronic level, at least – is purely lexically idiosyncratic, with no tangible semantic differences between the two groups of verbs/adnominal modifiers. As the table 1 below shows, in certain classes, such as Class 3, the prefix for the singular and plural is the same while for some other classes, such as class 6, the prefixes in the singular and plural are different. The prefixes for adnominal modifiers and verbs are the same.

(11) **Class/number marking on nominal modifiers and verbs (b-c from Nichols 2011; a elicited)**

a. **b**-i' cisk / **d**-i' žwalii
B-four cat / D-four dog
'four cats'/ 'four dogs'

b. **b**-erriga nax / **d**-erriga axcha
B-all people / D-all money
'all people'/ 'all the money'

c. jett aara-**b**-ealar / žwalii aara-**d**-ealar
cow out-B-went.out / dog out-D-went.out
'The cow went out.'/ 'The dog went out.'

(12) Table 1: class prefixes in Ingush

	Singular	**Plural**
Class 1	v-	d-/b-
Class 2	j-	d-/b-
Class 3	j-	j-
Class 4	d-	d-
Class 5	b-	b-
Class 6	b-	d-

Number is marked on nouns either with the affix *-až* or by irregular means, see examples below (13). The suffix *-až* is also found on modifiers (14). The only regular plural suffix in the language seems to be *-až;* recently borrowed nouns, such as in (13c), can only form plural by adding this suffix. Certain nouns have suppletive plural forms (13d).

(13) **Plural formation in nouns**

a. *kuotam – kuotam-až* 'hen' – 'hens'

b. dottagh – dottaghii ‘friend’ — ‘friends”

c. *ajfon – ajfon-až; *ajfon**ii*** ‘iPhone’ – ‘iPhones’

d. *sag – nax* ‘person’ – ‘people’

(14) **Plural marking in nominal modifiers**

a. *ši – ši-až* ‘two’ — ‘two.PL’

b. *jer – jer-až* ‘this’ — ‘these’

As for plural marking on verbs, apart from the productive mechanism of plural marking on prefixes, verbs can also have suppletive forms. An example of a verb with a suppletive paradigm is *-uoda/-olx* ‘go’, see the example in (15) below.

(15) **Number-conditioned allomorphy in verbs (based on Nichols 2011)**

a. Yž itt čy-v-uoda
DEM.PL ten in-V-go.PRS
‘The ten of them go in.’

b. Yž čy-b-olx
3p in-B-go:PL.PRS
‘They go in.’

2.2. Suppletion in adjectives: *big* and *small*

To reiterate, the regular way of morphological marking of plurality on Ingush adjectives is on the prefix, cumulatively with noun class. This section will consider in detail two Ingush adjectives which remarkably deviate from the general pattern by employing irregular morphological means to encode plurality – namely, the adjectives *-ooaqa/-aoqqii* ‘big’ and *zwamig/kegii* ‘small’. I will show that irregular alternations that these verbs exhibit are best analyzed as instances of contextual allomorphy.

2.2.1 *big*

I start with the adjective *-oaqqa/-oaqqii* ‘big’. This adjective belongs to the class of the adjectives which contain a morphological slot for a class prefix. This means that any form of this adjective must contain a class prefix which cumulatively marks noun class and number of the modified noun. Apart from co-varying

in class/number with the head, the adjective also appears in two forms: *-oaqqa* and *-oaqqii*. The form *-oaqqii* is universally found in plural contexts, such as in the examples below.

(16) **The adjective *–oaqqa/-oaqqii* with different classes: J-J class (basic paradigm; to be refined)**

a.	j-oaqqa	govr
	J-big	horse
	'big horse'	
b.	j-oaqqii	govr-až
	J-big.PL	horse-PL
	'big horses'	

(17) The adjective *–oaqqa/-oaqqii* with different classes: B-D class (basic paradigm; to be refined)

a.	b-oaqqa	cisk
	B-big	cat
	'a big cat'	
b.	d-oaqqii	cisk-až
	D-big	cat-PL
	'big cats'	

In most descriptive works on Ingush morphosyntax, such as Nichols (2011) and Norris (2022), the *-oaqqa/-oaqqii* alternation is taken as a simple singular/plural pair which reflects the number of the head noun. In such a way the *-oaqqii* form is seen as doubling – at least, from a descriptive perspective – the plural feature crossreferenced on the prefix. Such works, however, fail to observe a more intricate pattern which governs the distribution of *-oaqqa* vs. *-oaqqii*. More specifically, it appears that while the class/number prefix always tracks the number (as well as noun class) of the head noun, both *-oaqqa* and *-oaqqii-* in most plural contexts – are in free variation (see (18) below). That is to say, in most cases[4] speakers accept both morphological forms in plural contexts failing to specify any tangible difference between them. The *oaqqii* form – on the other hand – can only be used in plural contexts and using this form in plural contexts results in ungrammaticality. Importantly, the distribution of *oaqqa* vs. *oaqqii* distribution is different from the distribution of singular vs. plural feature on the prefix.

To that extent, covarying between these two forms seems to be independent of the class/number on the adjective's prefix. However, since only three out of four prefixes (viz. *j-; v-; d-* are used in plural contexts), only seven possible morphological forms of this adjective are attested, see below. The form **voaqqii* is

[4] See the discussion of idiomatic contexts below.

thus unattested due to the fact that *v-* can only cross-reference morphologically singular nouns. The *-oaqqa* vs. *-oaqqii* is illustrated with the singular and plural of *cisk* 'cat', which is of B/D class**.**

(18) **Distribution of *-oaqqa vs. -oaqqii* (refined)**[5]

a. b-oaqqa/*b-oaqqqii cisk
SG-big/ SG-big.PL cat
'a big cat'

b. d-oaqqa/d-oaqqii cisk-až
PL-big/PL-big.PL cat-PL
'big cats'

(19) **Full morphological paradigm of *-oaqqa/-oaqqii* (excluding case inflection)**

	Singular	**Plural**
Prefix J-	*j-oaqqa*	*j-oaqqii*
Prefix V-	*v-oaqqa*	N/A
Prefix D-	*d-oaqqa*	*d-oaqqii*
Prefix B-	*b-oaqqa*	*b-oaqqa*

As the examples show, the plural feature on the prefix tracks the morphological number on the head noun. In fact, this is always the case for adnominal modifiers and can be generalized as follows:

(20) **Generalization I**
Plural marking on prefixes is obligatory on all (prefix-taking) adnominal modifiers with plural head nouns

Following Norris (2022), I suggest that prefixal number marking on adnominal modifiers is a result of concord and take (20) as an indication that concord is obligatory in the Ingush Noun Phrase for prefix-taking modifiers. For non-prefix-taking modifiers, I suggest that concord proceeds abstractly although one can alternatively analyze such cases as lack of concord – the choice between the two options is not crucial and nothing in my analysis hinges on this choice.

More specifically, I suggest that the prefix is the spellout of a node merged postsyntactically, at the PF computation, which adjoins to the complex head, which consists of the root and the categorizing head *a(djective)*, see the diagram below. In the subsequent exposition, I will concentrate on plural marking, while the mechanics of noun class inflection is supposed to proceed analogously with no remarkable detail worth

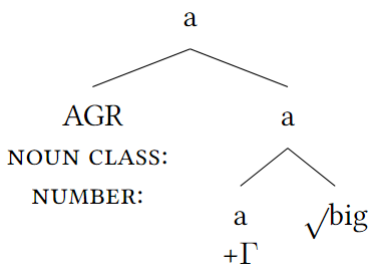
[5] For readers' convenience, I will henceforth gloss prefixes simply as SG or PL, abstracting away from particular inflectional classes.

separate discussion. Following Norris (2022) I suggest that a subset of Ingush adjectives, viz. those that take a prefix, have a diacritic feature +Γ which triggers an insertion of an AGR node which has unvalued noun class and number features which get valued from a dominating source. To sum up, the described picture presents an ordinary and perhaps a typologically unremarkable position where concord proceeds obligatorily at all modifiers which contain the corresponding morphological slot (i.e. the prefix). As for prefixless adjectives, I suggest that the concord operation is absent, although an alternative suggestion might be that the operation proceeds abstractly. (However, the proposed analysis departs crucially from Norris (2014) in assuming that *-oaqqii* is a monomorphemic string and does not contain a plural prefix).

(21) **Structure for concord (adopted from Norris 2022)**

a. AGR-insertion: $X_{[+\Gamma]} \rightarrow [X_{[+\Gamma]}\ AGR]_X$

b.



Given these considerations, we can now generalize that concord is obligatory for all modifiers, as stated below.

(22) **Generalization II**
Concord in Ingush is obligatory for all (prefix taking) adnominal modifiers.

Of particular interest for the current discussion is the example in (23) where the form *-oaqqa* is used while the plural prefix is selected. Importantly, the singular marking on the prefix results in ungrammaticality. This example shows that plural marking on prefixes, which I analyze as concord, has a different distribution compared to the distribution of the *-oaqqii* allomorph.

(23) Double plural marking on the adjective:

d-oaqqa/ *b-oaqqa	cisk-až
PL-big/ SG-big	cat-PL
‘big cats’	

With all this being said, there exists a set of specialized plural contexts where the use of the non-plural form *-oaqqa* is not allowed and the plural form *-oaqqii* must be used instead. More specifically, the plural marking is obligatory in idiomatic expressions with the noun *sag* (pl. *nax*) "person". The idiomatic expression has the non-compositional meaning *elder, senior person (most commonly man)*[6]. The consultants remark that on compositional readings, the expression isn't frequently used in the language since the adjective *-oaqqa* is not naturally used when referring to a person's body size. However, in specially constructed contexts the modifying of the word *sag* by the adjective *-oaqqa* is judged grammatical. One type of contexts deemed acceptable by all consultants involves two drawings of human beings, where one drawing is significantly larger than the other. The large drawing (i.e. the 'person' in this drawing) can be referred to as *v-oaqqa sag* 'big person'.

The following examples show that while the allomorph *-oaqqii* when used with the word *nax*, "people" can yield both idiomatic and compositional readings, when the *-oaqqa* allomorph is chosen in a plural context, the idiomatic reading is lost and only the compositional reading is available.

(24) **Distribution of *-oaqqa vs. -oaqqii* in expressions with *sag/nax* "person/people"**

a. *v-oaqqa sag* 'big person' or 'elder'

b. *v-oaqqii nax* 'big people' or 'elders'

c. *v-oaqqa nax* 'big people'; '*elders'

To that effect, the following generalization emerges. In idiomatic contexts choosing the allomorph *-oaqqii* is obligatory.

(25) **Generalization III**

a. In idiomatic plural contexts, the plural form is obligatory
b. In non-idiomatic plural contexts, the plural form can be used interchangeably with the singular (number-neutral) form

In the subsequent analysis, I assume that the adjective *-oaqqa* in two cases are merged in different positions. While in idiomatic expressions it is merged low, in phrases with compositional meaning, the adjective is assumed to be merged at a higher position. The evidence to this effect can be perhaps best provided by the possibility of combining both the idiomatic and compositional *-oaqqa* within one noun phrase, see the examples below. As expected, the adjective contributing the idiomatic reading must linearly follow the non-idiomatic one, as the following examples show. In these examples,

[6] See Nichols (2011:101) for some discussion.

(26) **Relative positions of idiomatic and non-idiomatic adjectives**

a. ***v-oaqqii*** *v-oaaqqii nax* or *v-oaqqa v-oaaqqii nax* '[physically] big elders'

b. ****v-oaqqii*** *v-oaaqqa nax* int. '[physically] big elders'

As in the examples above, the speakers fail to specify their choice for either *-oaqqa* or *-oaqqii* form for the non-idiomatic (linearly preceding) adjective, universally accepting both forms as fully grammatical. The ungrammaticality arisen with the use of the non-plural form of the adjective in its idiomatic reading is again fully expected in the light of the discussion above. The distribution of the two allomorphs is summarized in the following table.

Table 1.

	Singular non-idiomatic	**Plural non-idiomatic**	**Singular idiomatic**	**Plural idiomatic**
-oaqqa	possible	possible	possible	impossible
-oaqqii	impossible	possible	impossible	possible

To that effect, the availability of the two forms depending on the morphological number and (non)idiomaticity of the context can be summarized in the table below:

Table 2.

	Singular	**Plural**
non-idiomatic	*-oaqqa* **-oaqqii*	*-oaqqa* *-oaqqii*
idiomatic	*-oaqqa* **-oaqqii*	**-oaqqa* *-oaqqii*

2.2.2. *small*

Before proceeding to the analysis of the allomorph distribution I turn to discussing the number marking in another adjective with an irregular number paradigm – the adjective *zwamig/kegii*. The two main differences if compared to the already discussed adjective *-oaqqa* are the following. First, unlike the adjective *-oaqqa* the adjective *zwamig/kegii* does not contain a morphological slot for a class/number prefix.

Second, unlike the adjective *-oaqqa* the number paradigm of *zwamig/kegii* is fully suppletive, see basic paradigm below:

(27) **Basic paradigm of *zwamig/kegii* (to be refined)**

a. zwamig	cisk
small	cat
'a small cat'	
b. kegii	cisk-až
small	cat-PL
'small cats'	

To reiterate, neither the presence or the absence of the class/number prefix on the adjective is by no means exceptional or unusual for Ingush; both classes include dozens to hundreds of adjectives. Similarly, while the adjective *zwamig/kegii* 'small' is likely the only fully suppletive adjective in Ingush, the mere fact of adjectival suppletion is hardly unique or analytically suggestive in the typological perspective – number-conditioned adjectival suppletion is widely attested in the languages of the world.

What is remarkable about the adjective *zwamig - kegii* is that its suppletive pattern mimics in a very close detail the distribution of the *-oaqqa* vs. *-oaqqii* forms. To wit, in most plural contexts, both suppletive forms are allowed. This illustrated in the following example, where both forms can used with the plural noun and only the form zwamig can be used in the singular context.

(28) **Paradigm of *zwamig/kegii* (refined)**

a. zwamig/*kegii	cisk
small/small.PL	cat
"a small cat"	
b. zwamig/kegii	cisk-až
small/small.PL	cat-PL
"small cats"	

However, in idiomatic expressions with the noun *sag (nax)* where the whole expression has the meaning *youngster, young person*, the specialized plural form *kegii* is used.

(29) **Paradigm of *zwamig-kegii***

a. *zwamig sag* "small person" or "youngster"

b. *kegii nax* "small people" or "youngsters"

c. *zwamig nax* “small people”; “*youngsters”

Similar to the distribution of *-oaqqa* vs. *oaqqii*, the specialized plural form of the adjective, viz. *kegii* is reserved for plural contexts, the form *zwamig* can be used in the plural in non-idiomatic contexts, interchangeably with the form *kegii*, and is unavailable in plural idiomatic contexts, where the only acceptable form is *kegii*.

The distribution of the two allomorphs is summarized in the table below:

Table 3.

	Singular non-idiomatic	**Plural non-idiomatic**	**Singular idiomatic**	**Plural idiomatic**
-oaqqa	possible	possible	possible	impossible
-oaqqii	impossible	possible	impossible	possible

Below I provide a table which generalizes the distribution of the number allomorphs in the two discussed adjectives, which, as one can see, are identical across the two adjectives.

Table 4.

	Singular	**Plural**
non-idiomatic	*-oaqqa; zwamig* **-oaqqii; *kegii*	*-oaqqa; zwamig* *-oaqqii; kegii*
idiomatic	*-oaqqa; zwamig* **-oaqqii; *kegii*	**-oaqqa; *kegii* *-oaqqii; kegii*

The two adjectives are the only irregular adjectives reported in the available resources on Ingush, these are also the only ones that I could to find in the course of elicitations. The rest of the adjectives either show no morphological number distinctions or exhibit noun class/number marking, similar to the one on the adjective *-oaqqa/-oaqqii*.

2.2.3. Is *-ii* a morpheme*?*

Before turning to the analysis of the distribution of the number sensitive allomorphs in the two studied adjectives, it is worth discussing the morphological identity of the segment *-ii*. In the present paper. I assume that all four studied stems, viz. *-oaqqa/-oaqqii and kegii/zwamig* are each monomorphemic forms. The presented paradigms indicate clearly that both pairs pattern similarly up to details suggesting that a uniform

mechanism governing their distribution must be sought. The analysis, presented in the next section, is designed to reflect this analogy.

To start, the existing research has been unanimous is analyzing *kegii* as one single morpheme. Perhaps, one principle reason for this is that the segment **keg-* does not exist anywhere in the language independently. The same applies to the form *zwamig*.

As for the form *-oaqqii*, in the research on Ingush morphology (Nichols 2011, Norris 2022), this segment has been analyzed as consisting of two morphemes, viz. *-oaqq-* – apparently, the positional variant of the root *-oaqqa* – and the plural morpheme *-ii*. If correct, this analysis suggests that in the forms like *d-oaqqii* the morphosyntactic plurality is encoded twice – on the class/number prefix and on the purported suffix (see the consideration of this fact as well its theoretical implications in Norris (2022)). This suggestion does not completely lack motivation, since, the segment *-ii* is indeed often associated with plural contexts and in some cases can be most plausibly analyzed as a plural morpheme. This concerns only noun roots, since nominal modifiers such as demonstratives, as well as numerals, involve either regular or fully suppletive plural formation. Apart from marking plurality, this (or the string-identical) marker is also used to mark other grammatical meanings such as Genitive case (13b).[7]

(30) **The segment *-ii* in plural and Genitive contexts**

a. *dottagh* 'friend (ABS)' – *dottagh**ii*** 'friends (ABS)'

b. *šura* 'milk' – *šur**ii*** 'milk.GEN'

By itself, the pattern discussed above is perhaps not suggestive on the status of the *-ii* segment. One may conceive of an analysis where *-ii* is analyzed as a plural morpheme which gets its feature valued by two different mechanisms. Below I summarize all the reasons to treat *-oaqqii* as one morpheme.

To start, suffix plural marking is rarely found in adnominal modifiers outside of adjectives. Two known cases each involve regular plural suffix *-až*, rather than *–ii*, see below. To that effect, *if –ii* is analyzed as a plural marker it would be the only plural marking of this phonological shape in the domain of nominal modification.

(31) a. ši – šiaž[8]
b. jer – jeraž

[7] For the reasons that will be apparent shortly I will deliberately avoid marking *-ii-* as a separate morpheme.
[8] Plural numerals are only productively used with pluralia tantum nouns.

Postulating that *-ii* as a morpheme would not only make the *PL-oaqqii* forms unique in the language but also would presuppose two very dissimilar morphosyntactic mechanics that yield the same distribution. What is remarkable is that, on this analysis, we have to postulate two different agreement mechanics for the two adjectives with very similar distribution. To wit, forms like PL-*oaqq**ii***, on the analysis that *–ii* is a plural morpheme, would contain two plural exponents, each of which having a distinct distrubition. That means that two different and potentially unrelated grammatical mechanisms must be involved to account for the distributions of the plurality exponed by *-ii* and for the plurality exponed by the plural prefix. The hypothesis that *-ii* is part of the suppleting root *–oaqqa/-oaqqii*, on the other hand, would suggest that although be devoid of these problems. Although plurality in such forms is supposed to be exponed twice, the two instances of plurality are supposed to be reflexes of two different mechanisms – namely concord and number-sensitive suppletion, each of which having its demonstrably unique distributional signature.

Next, it is far from clear whether *–ii* is a plural morpheme in nouns' paradigms. For instance, unlike the regular plural morpheme *-až*, the *–ii* forms mark cumulatively number and (Genitive) case, see below. In contrast, we never find instances of cumulative marking of number and case on *-až*.

(32) ***-ii* marks PL and GEN**

a. *žwalii* 'dog.GEN.PL' (PL.ABS – *žwalež*)
b. *xii* 'river.GEN.PL' (PL.ABS – *xiž*)
c. *kuotamii* 'hen.GEN.PL' (PL.ABS – *kuotamaž*)

3. Analysis

3.1. Assumptions

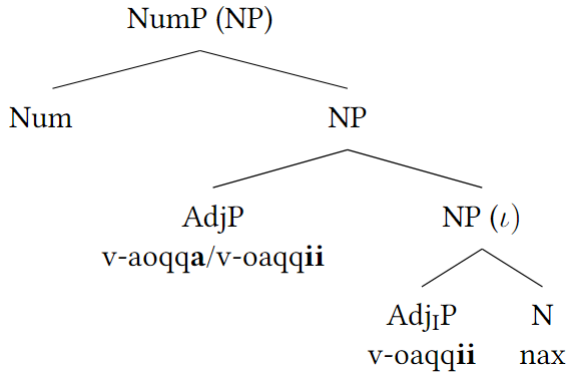
In the present analysis I adopt the following assumptions. On the syntactic side, I suggest that idiomatic adjectives on one side, and non-idiomatic adjectives, on the other side, merge at different positions within the NP. One reason for this is the fact idiomatic adjectives always linearly follow non-idiomatic adjectives, see (33) below.

(33) **Idiomatic adjectives linearly follow non-idiomatic adjectives, non-idiomatic marked bold**
a. ***v-oaqqii*** *v-oaaqqii nax* or ***v-oaqqa*** *v-oaaqqii nax* '[physically] big elders'

b. ***kegii*** *v-oaaqqii nax* or ***zwamiga*** *v-oaaqqii nax* '[physically] small elders'

For notational simplicity I will label the idiomatic domain in which idiomatic adjectives are merged as ι (iota), although remaining deliberately agnostic on whether (and how) this domain relates to any other established syntactic domains (e.g. phasal) within NP.

(34) The idiomatic domain (iota) within the NP



Attributing different heights of attachments to non-idiomaticity allows for describing the allomorphy selection in Ingush adjectives sensitive to locality. For instance, distribution of different allomorphs cannot be reduced to mere linear adjacency, since both idiomatic and non-idiomatic adjectives can be linearly adjacent to the head noun, retaining their suppletive identity, see below. In this example the adjective can (although may not to) appear in its plural suppletive form.

(35) **Linear adjacency is not required for number suppletion**
kegii/zwamiga v-oaaqqii nax '[physically] small elders'

I assume a simple NP structure where adjectives are (at least on the surface) nominal modifiers. I remain agnostic on whether nouns are generated inside AdjPs as adjectives' subjects or whether adnominal AdjPs involve relative clauses (see e.g. Alexiadou 2014). Adjectives are supposed to be contained low in the structure, below numerals, as evidenced by their relative positions, see the example below:

(36) **Adjectives follow numerals**

a.	*ši'*	*b-itqa*		*ust*
	two	SG-thin		bull
	'two	thin	bulls'	
b.	??*b-itqa*		*ši'*	*ust*
	B-thin		two	bull

On the morphological side I adopt basic tenets of Distributed Morphology (Halle&Marantz (1993), Bobaljik (2012), Moskal (2015), Bobaljik Harley (2017), Gribanova (2017), Adamson (2024)). I follow Embick (2010), (2015), Bobaljik (2012), a.o., to analyze number-sensitive suppletion in terms of contextual allomorphy. This approach presupposes that suppletive alternations are to be modeled as alternations of functional morphemes which procede postsyntactically. Different allomorphs compete for the same position according to the Subset Principle and are sensitive to their environment. A scheme of such modeling is provided below.

(37) **A scheme of an allomorphic rule**

$\sqrt{}_{\text{ROOT}} \leftrightarrow$ b / [x]

$\sqrt{}_{\text{ROOT}} \leftrightarrow$ a

I will explicitly refute the idea (discussed in Adamson (2024: 36)) that allomorphy must be mediated by an Agree operation. Moreover, I intend to show, with the discussed Ingush facts, that allomorphy is demonstrably independent of Agree/Concord relations.

As for locality, I take position that strict linear adjacency is not a prerequisite for contextual allomorphy and that allomorphy is sensitive to local syntactic domains, see the specific implementation below.

Although I explicitly assume the model of concord of (Norris 2022) which treats concord as an operation different from Agreement nothing in my treatment of Ingush suppletion nor in its basic consequences hinges crucially on this particular analysis and is in principle compatible with any system which treats adnominal phi-feature crossreferencing as a morphosyntactic operation.

3.2. $\sqrt{}$**SMALL**

I start by analyzing the suppletion in *zwamig* vs. *kegii*. To sum up the data, we have seen that in singular environments the singular allomorph must be selected irrespective of whether the adjective is used idiomatically or not. In plural environments the plural allomorph must be used with idiomatic adjectives and the singular (number-neutral) can be used along with its plural counterpart in non-idiomatic plural contexts.

The distribution of the two allomorphs clearly suggests that *zwamiga* has a less specified environment and should be considered an elsewhere form. I will start with the rule which I will use as a baseline and which will be refined in the subsequent exposition.

(38) **Rule for** $\sqrt{}$SMALL **(to be refined)**

√SMALL ↔ kegii / [-sg]
√SMALL ↔ zwamiga

Although this rule correctly predicts that *zwamiga* will be used in singular environments, it crucially does not predict the sensitivity of the allomorphs to idiomaticity nor the free variation of the two allomorphs. In order to model this, I suggest that two rules exist in Ingush, which are either in free competition with each other or in a different type of relation, to be discussed below. I propose that the first rule proceeds within the ι domain while the other one applies less locally.

The major part of the analysis is the fact that allomorph selection is sensitive to the height of attachment of the adjective. The idea is that low attachment creates more local configuration between the allomorph (the adjective) and its context (the nominal head), and the allomorph selection is sensitive to such locality. To model this sensitivity, I suggested that the area of the nominal structure in which idiomatic adjectives are merged constitutes a domain which I labeled ι. The allomorph selection is postulated to proceed within this domain.

(39) **Rule I (applies within ι)**
√SMALL ↔ kegii / [_ N[-sg]]$_{\iota}$
√SMALL ↔ zwamiga

(40) **Rule II (applies within NP)**
√SMALL ↔ kegii / [_ N[-sg]]$_{NP}$
√SMALL ↔ zwamiga

The rule I selects for the form *kegii* only if the head noun is plural and if the environment and the context are contained within the idiomatic domain, which, as I have proposed is a sub-domain of the NP. For all other contexts, including the plural contexts with non-idiomatic readings, the elsewhere form is selected. The rule II creates a more symmetrical allomorphic space where the choice between the two allomorphs depends solely on the number of the head noun. The optionality of *zwamiga* vs. *kegii* results, in this system, due to the fact that either of the rules can be chosen by the speaker. For a subset of environments, the choice of the rule has nill consequences for the allomorph selection since, for instance, both rules yield *zwamiga* in singular environments and both rules yield *kegii* in plural idiomatic contexts. In contrast, for a subset environments, viz. for plural non-idiomatic contexts, the choice of the rule affects the allomorph selection. The possibility of applying one or another rule has as a consequence the free variation of the two allomorphs on the surface.

As I have already reinstated above, I have failed to find clear grammatical factors which influence speakers' preference for one or another allomorph in the given context. If such factors are indeed non-existent, we might be dealing with an instance of true optionality.

At the same time, there might be extragrammatical factors governing the choice of the two rules. More specifically, the idea might be that we can be dealing with instances of code switching. To that effect, the only tangible difference between the chosen forms, according to the consultants, is in register. To that effect, speakers prefer the plural form in literary register while in the colloquial register, both forms can be used. The idea is that given the prescriptive bias, the use of the literary form is still allowed in the colloquial speech, while using a colloquial form in high register contexts is not possible. One piece of evidence supporting this claim is that in written texts, in plural environments, only the form *oaqqii* is found. The idea is that two different mechanics of allomorph selection are used in the two registers. More precisely, in the formal register, the plural allomorph is universally selected in plural environments, while in the colloquial register, the allomorph selection in plural contexts is strictly sensitive to locality: the plural allomorph is selected with lower (more local) adjectives the number-neutral allomorph is selected with higher (less local) adjectives. This assumption presupposes that the two registers involve different allomorph selection rules: in the high register, allomorph selection is not sensitive to locality, while in the colloquial register, the plural form is selected in plural form is selected in plural contexts within iota, while the *zwamiga* is the elsewhere form. This can be represented as follows.[9]

(41) **Colloquial (non-high) register: apply Rule I (applies within ι)**
$\sqrt{\text{SMALL}} \leftrightarrow$ kegii / [_ N[-SG]]$_{\iota}$
$\sqrt{\text{SMALL}} \leftrightarrow$ zwamiga

(42) **High register: apply Rule II (applies within NP)**
$\sqrt{\text{SMALL}} \leftrightarrow$ kegii / [_ N[-SG]]$_{\text{NP}}$
$\sqrt{\text{SMALL}} \leftrightarrow$ zwamiga

3.3. $\sqrt{\textbf{BIG}}$

Now let's turn to the plural marking in *-oaqqa/-oaqqii*. The idea is that plural marking in this adjective involves two different and independent mechanics: concord and number-sensitive word-external contextual allomorph selection. Both these mechanics are not unique to this adjective and can be found with other

[9] Finally, one can assume that the same adjective – in our case, the adjective *small* – may merge at different heights in the nominal structure in non-idiomatic contexts. Since allomorph selection is known to be sensitive to locality, the plural allomorph can be hypothesized to be selected with lower attachment and the number neutral one – with higher attachment. I have failed to find any independent evidence to support this assumption and this option thus remains a pure theoretical possibility.

adjectives. To recall, number concord in this adjective is obligatory, as it is for any other prefix-taking nominal modifier in the language. As for *-oaqqa* vs. *-oaqqii*, both forms are taken to be monomorphemic allomorphs, similar to *zwamig/kegii*. To that effect, both concord and number-sensitive allomorphy are found independently in the language, and no part of its number paradigm is idiosyncratic to this adjective.
I suggest that the rule governing the distribution of the two allomorphs of √BIG is identical the one governing *zwamiga* vs. *kegii* modulo the root – the presence of the concord operation has no bearing on the allomorph selection. I remain agnostic on the relative timing of allomorph selection vs. concord.
For explicitness, the allomorphic rules are provided below.

(43) **Rule I (applies within iota)**
$\sqrt{BIG} \leftrightarrow$ -oaqqii / [_ N[-SG]]$_{\iota}$
$\sqrt{BIG} \leftrightarrow$ -oaqqa

(44) **Rule II (applies within NP)**
$\sqrt{BIG} \leftrightarrow$ oaqqii / [_ N[-SG]]$_{NP}$
$\sqrt{BIG} \leftrightarrow$ oaqqa

That the rule is sensitive to morphosyntactic rather than to semantic plurality can be evidenced from the following type of data. In this example, a morphologically singular NP is used which however denotes a plural entity.

(45) **Numerical constructions are morphosyntactically singular**

ši	zwamiga/*kegii	cisk
two	small/small.PL	cat

'two small cats'

3.4. Against Different Root Analysis

Before turning to the discussion, it is important to consider – and ultimately refute – an alternative analysis of the patterns exhibited by the two studied Ingush adjectives. This analysis (Different Root Analysis, henceforth – DRA, see Borer (2014) for a discussion) would treat the forms *kegii* and *zwamiga* on one hand and *–oaqqa* ans *–oaqqii* on the other hand as two different roots with no morphological relation to each other. This analysis might perhaps seem more plausible for the *zwamig/kegii* pair because this pair constitutes an instance of full suppletion as both forms are phonologically and diachronically unrelated to each other, unlike the *–oaqqa/-oaqqii* pair. However, I will provide evidence against such an analysis for both pairs.

To start, one piece of evidence against such an analysis can be drawn from the data discussed earlier in the paper – namely, the fact that the same idiomatic meaning is shared by either form in the two pairs. To that effect, the idiomatic meaning pertaining to old age and/or high social status is found both with *-oaqqa* and *-oaqqii*. Similarly, the idiomatic meaning pertaining to young age is found both in *zwamig* and *kegii*. This is illustrated below.

(46) **Idiomatic meaning 'old', 'high social status'**

a. v-oaqqa sag
SG-big man
'a young person'

b. b-oaqqii nax
PL-big.PL people
'young people'

(47) **Idiomatic meaning 'young'**

a. zwamiga sag
small man
'a young person'

b. kegii nax
small.PL people
'small people'

Next, for both adjectives, different forms can be used in ellipsis contexts. More specifically, the elided part may contain the mismatched form with respect to number, as the following examples show

(48) **Mismatch in ellipsis with √SMALL**

a. C'ahw ca zwamiga cisk d-oal-i je dukkxa ~~kegii~~ ~~cisk-az~~ ?
home one small cat SG-be-Q CONJ many small.PL cat-PL
'Is there one small cat in the house or many small cats?'

b. C'ahw dukxa kegii cisk-az d-oakx-i je ca ~~zwamiga~~ ~~cisk~~ ?
home one small cat-PL SG-be.PL-Q CONJ one small.SG cat
'Is there many small cats in the house or one?'

(49) **Mismatch in ellipsis with √BIG**

a. C'ahw ca d-oaqqa cisk d-oal-i je dukkxa ~~b-oaqqii~~ ~~cisk-az~~ ?

home one SG-big cat SG-be-Q CONJ many PL-big.PL cat-PL
'Is there one big cat in the house or many big cats?'

b. C'ahw dukxa b-oaqqii cisk-azd-oakx-i je ca ~~d-oaqqa~~ ~~cisk~~ ?
home one small cat-PL SG-be.PL-Q CONJ one SG-big cat
'Is there many big cats in the house or one?'

This test is seen as a diagnostic for SRA since under standard assumptions, the ellipsis requires root identity. (see Harley 2015; Choi and Harley 2019).

4. Discussion

To summarize, we have seen that number paradigms of Ingush adjectives are best analyzed as involving two independent operations – concord and allomorph selection. The inflectional paradigm of one Ingush adjective – *oaqqa/oaqqii* – seems to involve both operations, each with its characteristic signature.

Of course, the paradigm of *zwamig* vs. *kegii* by itself might lead us to analyze this alternation as allomorphy. However, it would not be evident just from looking at the paradigm of *zwamig/kegii* alone that the mechanics of the *zwamig/kegii* alternation does indeed employ the allomorphy as an operation distinct from concord. On the other hand, the considering of the paradigms of *zwamig/kegii* together with *-oaqqa/-oaqqii* has allowed us to identify two distinct number-sensitive processes: one process involves marking number, along with noun class, on a prefix, and is plausibly analyzed as concord, and the other one which involves irregular allomorphy and which crucially cannot be analyzed as concord.

Perhaps, the most important conclusion that can be drawn from this data is that number-sensitive suppletion in adnominal modifiers in at least some cases cannot be reduced to concord. To reiterate, this conclusion is largely orthogonal to the discussion of the morphosyntactic nature of concord and, more specifically, of the assumption that concord is an operation distinct from predicative agreement. Rather, the word-external allomorphy as found in the nominal domain is shown to be independent of any morphosyntactic feature copying/crossreferencing operation.

This conclusion can be directly compared to a similar conclusion in Weisser (2019), Bobaljik&Harley (2017) which consider patterns of word-external allomorphy in the verbal domain. It should be noted that distinguishing concord – if seen as an operation distinct from Agreement – and feature-conditioned allomorphy, can't rely on the same empirical argumentation as with the case with predicative agreement, and it shouldn't perhaps come at a surprise why this question was largely avoided in literature. Indeed, unlike predicative agreement on verbs which – in many languages – may target different goals in a given structure (see Oxford 2017), in DP-internal concord, in contrast, there is no question of what a given

morphological target gets its features from – it is universally the nominal head[10].While different modifiers at various syntactic positions within a given nominal extended projection may or may not bear morphological exponents of their head either due to their morphological identity – or – as a result of a more complex morphosyntactic computation sensitive to the syntactic position of the modifier (cf. the discussion of the so-called Partial Concord (Bayirli 2017, Privoznov 2020)) – the syntactic machinery of valuation in concord seems to invariably involve a uniform mechanics of crossreferencing the nominal head's (certain) morphosyntactic features on higher nominal projection. In this perspective, the patterns presented in this paper provide a novel type of evidence for non-mediated allomorphy which is idiosynctratic for the nominal domain.

The analysis presented in this paper raises several important theoretical questions. First, it questions the role of locality in allomorphic relations. While early studies on allomorphy suggested a strict locality between the position of the allomorph and its context (Embick 2010), later research has indicated that the actual configurations between the two might be more flexible. For instance, Bobaljik & Harley (2013) suggests that allomorphic relations must not be strictly local but may not cross the phase boundary. To this effect, the Ingush data suggests that neither linear adjacency nor containment in the same complex head is a prerequisite for allomorphic operations. However, if the assessment of the facts is on the right track, allomorphic relations still seem to be more sensitive to locality than morphosyntactic operations like concord.

This conclusion doesn't imply that every case of adjectival number-sensitive suppletion should be viewed as allomorphy. One interesting case in this regard involves patterns of suppletion in demonstratives. To that effect, the Ingush demonstrative involves a suppletive number paradigm, see below. At least historically, however, the two forms are related to each other, with the final consonantal segment *-ž̌* of the plural pronoun undoubtably deriving from the regular suffix *-až*, and the whole paradigm should be considered partial, rather than full, suppletion.

(50) **Suppletive paradigm of proximal demonstratives *yz - yž̌***

a.	yz/ *yž̌	cisk
	DEM.SG/ DEM.PL	cat
	'this cat'	
b.	yž̌/ *yz	cisk-až
	DEM.PL/ DEM.SG	cat-PL
	'these cats'	

[10] Certain apparent minor exceptions to this generalization such as concord with conjunctions are perhaps orthogonal to the discussion.

This pattern remarkably deviates from the one observed with the two discussed adjectives. First, there is no optionality observed in plural contexts, unlike with *-oaqqa*. This is even more surprising, given that, if the suppletion in Ingush adjectives is indeed sensitive to locality, as suggested above – and given that demonstratives are generated very high on the nominal spine, higher than lexical adjectives. To wit, high modifiers are expected to exhibit more optionality with respect to allomorphy, not less.

However, an alternative, more plausible hypothesis can be postulated. More specifically, I suggest – preliminarily – that this paradigm may instantiate a case of allomorphy mediated by concord. On such an account the head noun's phi-features get copied to the demonstrative as a result of concord; next allomorphs are selected, with the context being the singular/plural feature contained on the demonstrative itself.

III. Conclusion

In this paper, I considered data from Ingush which provides a clear case for distinguishing Word-External Allomorphy conditioned by the grammatical number of the head noun from Concord. The two phenomena are clearly identifiable and have different although partly overlapping domains of applicability. The pattern illustrated above is remarkable in that it seems to provide a picture which is largely parallel to what we find in the verbal domain with respect to feature interactions. In both domains we see more regular less locality-sensitive interactions (standardly analyzed as Agreement and Concord, respectively).

In the paper, I assumed explicitly that morphological NP-internal crossreferencing is governed by Concord as an operation distinct from Predicative Agreement. However, the main results only minimally depend on this assumption. If one wishes to argue that NP-internal crossreferencing (in Ingush or more broadly) is best analyzed as an Agree operation rather than Concord, the data in this paper is then can be taken as evidence that allomorphy and agreement are distinguishable NP-internally as well.

Finally, the discussed data raises the question of whether other instances of feature-conditioned WEA such as, for instance the examples from Swedish, is left for future research.

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